[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-7421; Directorate Identifier 2015-NM-145-AD; Amendment 39-18705; AD 2016-22-16]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes. This AD was prompted by a determination that wear and possible leakage of the high-pressure seal in the cylinder of the No. 3 hydraulic system reservoir could occur and cause high hydraulic fluid temperature and/or prevent the system from reaching normal operating pressure. This AD requires repetitive operational checks for wear and leakage of the high-pressure seal in the cylinder of the reservoir of the No. 3 hydraulic system, and corrective actions if necessary. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 400 Côte Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; fax 514-855-7401; email ac.yul@aero.bombardier.com; Internet http://www.bombardier.com. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7421.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7421; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7318; fax 516-794-5531.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes. The NPRM published in the Federal Register on July 1, 2016 (81 FR 43122) ("the NPRM"). The NPRM was prompted by a determination that wear and possible leakage of the high-pressure seal in the cylinder of the No. 3 hydraulic system reservoir could occur and cause high hydraulic fluid temperature and/or prevent the system from reaching normal operating pressure. The NPRM proposed to require repetitive operational checks for wear and leakage of the high-pressure seal in the cylinder of the reservoir of the No. 3 hydraulic system, and corrective actions if necessary. We are issuing this AD to detect and correct wear and leakage of the high-pressure seal in the cylinder of the reservoir of the No. 3 hydraulic system, which can result in high hydraulic fluid temperature. High hydraulic fluid temperature combined with a temperature transducer malfunction could result in un-annunciated overheating of the hydraulic system and consequent ignition sources inside the fuel tank, which, combined with

flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2015-27, dated September 14, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes. The MCAI states:

> It was discovered that the high-pressure seal in the cylinder of the No. 3 hydraulic system reservoir with P/N 960450-1 could wear and leak. This can cause high hydraulic fluid temperature and/or prevent the system from reaching normal operating pressure. High hydraulic fluid temperature, in combination with a temperature transducer malfunction, could result in an unannunciated overheat of the hydraulic system that could result in a potential ignition source within the fuel system.
>
> This [Canadian] AD mandates the repetitive operational check of the hydraulic system No. 3 fluid temperature indication as an interim mitigating action.

Required actions include repeating any operational check that fails until the operational check passes. You may examine the MCAI in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7421.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

Clarification of Applicability in this AD

Bombardier, Inc. Model CL-600-2D15 airplanes are derivatives of the Model CL-600-2D24 and should have been included in paragraph (c)(2) of the proposed AD. Therefore, Model CL-600-2D15 is added to paragraph (c)(2) of this AD. The serial number range specified in paragraph (c)(2) of the proposed AD remains unchanged.

Clarification of Unsafe Condition

In the SUMMARY and Discussion sections of the NPRM and paragraph (e) of the proposed AD, we specified that the AD was to detect and correct a malfunctioning temperature indication of the No. 3 hydraulic system. However, the operational check is for wear and leakage of the high-pressure seal in the cylinder of the reservoir of the No. 3 hydraulic system, which can result in high hydraulic fluid temperature. We have revised the SUMMARY and Discussion sections of the final rule and paragraph (e) of this AD accordingly.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD with the change described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and

- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information under 1 CFR part 51

We reviewed Bombardier Service Bulletin 670BA-29-018, Revision A, dated October 13, 2015. The service information describes procedures for performing an operational check for wear and leakage of the high-pressure seal in the cylinder of the reservoir of the No. 3 hydraulic system. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 509 airplanes of U.S. registry.

We also estimate that it takes about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is $85 per work-hour. Based on these figures, we estimate the cost of this AD on U.S. operators to be $43,265, or $85 per airplane.

We have received no definitive data that enables us to provide a cost estimate for the on-condition actions specified in this AD.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a "significant regulatory action" under Executive Order 12866;

2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and

4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2016-22-16 Bombardier, Inc.: Amendment 39-18705; Docket No. FAA-2016-7421; Directorate Identifier 2015-NM-145-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Bombardier, Inc. airplanes identified in paragraph (c)(1), (c)(2), or (c)(3) of this AD, certificated in any category, equipped with No. 3 hydraulic system reservoir having part number 960450-1.

(1) Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, having serial numbers 10002 through 10999 inclusive.

(2) Model CL-600-2D15 (Regional Jet Series 705) and CL-600-2D24 (Regional Jet Series 900) airplanes, having serial numbers 15001 through 15990 inclusive.

(3) Model CL-600-2E25 (Regional Jet Series 1000) airplanes, having serial numbers 19001 through 19990 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 29, Hydraulic power.

(e) Reason

This AD was prompted by a determination that wear and possible leakage of the high-pressure seal in the cylinder of the No. 3 hydraulic system reservoir could occur and cause high hydraulic fluid temperature and/or prevent the system from reaching normal operating pressure. We are issuing this AD to detect and correct wear and leakage of the high-pressure seal in the cylinder of the reservoir of the No. 3 hydraulic system, which can result in high hydraulic fluid temperature. High hydraulic fluid temperature combined with a temperature transducer malfunction could result in un-annunciated overheating of the hydraulic system and consequent ignition sources inside the fuel tank, which, combined with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Operational Check and Repair, if Necessary

Within 660 flight hours or 4 months after the effective date of this AD, whichever occurs first: Perform an operational check for wear and leakage of the high-pressure seal

in the cylinder of the reservoir of the No. 3 hydraulic system, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-29-018, Revision A, dated October 13, 2015. If the operational check fails, before further flight, do applicable corrective actions and repeat the operational check and applicable corrective actions until the operational check passes. Repeat the operational check thereafter at intervals not to exceed 660 flight hours or 4 months, whichever occurs first.

(h) Credit for Previous Actions

This paragraph provides credit for the applicable actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 670BA-29-018, dated June 25, 2015.

(i) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method

approved by the Manager, New York ACO, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(j) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2015-27, dated September 14, 2015, for related information. This MCAI may be found in the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7421.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (k)(4) of this AD.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 670BA-29-018, Revision A, dated October 13, 2015.

(ii) Reserved.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America toll-free telephone 1 866 538 1247 or direct-dial

telephone 1 514 855 2999; fax 514 855-7401; email ac.yul@aero.bombardier.com; Internet http://www.bombardier.com.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Renton, Washington, on October 25, 2016.

Dionne Palermo,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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